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Notice of Allowability

Application No.

10/099,629

Examiner

AJIT G. PATEL

Applicant(s)

HILL ET AL.

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.

2. ☐ The allowed claim(s) is/are _____.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____

7. ☒ Examiner's Amendment/Comment

8. ☐ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____.

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1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. M. Spolyar on 1/31/2007.

2. The application has been amended as follows: The amendment to the claims is as follows:

1. A method comprising:

receiving, over a connection, one or more packets of a traffic flow, the one or more packets having respective packet tag values;

assigning a policy to the traffic flow based on the respective packet tag values of the one or more packets;

~~determining one or more~~ respective packet tag values of one or more newly received packets over a connection has changed from previously received packet tag values within the traffic flow; and

modulating, using a delayed hysteresis response to a change in received packet tag values within the traffic flow of said connection, the policy applied to the one or more packets in response to identifying the change in the respective ~~one or more~~ packet tag values of the one or more newly received packets.

2. An apparatus comprising:

an intra-flow modulator to modulate policies applied to packets within a traffic flow of a connection using a ~~delayed~~ hysteresis response to changes in received packet tag values within the traffic flow of said connection, wherein the intra-flow policy modulator comprises

a classification module to receive incoming ~~traffic packets within the traffic flow~~, assign a traffic class to the incoming ~~traffic packets~~ based on a packet tag in the incoming ~~traffic packets~~, and vary the traffic class applied to the traffic flow of the connection in response to receipt of a different priority tag in subsequent incoming packets of the traffic flow ~~the incoming traffic~~; and

a policy module to assign a policy to the incoming ~~traffic packets within the traffic flow~~ based on the assigned traffic class and to control outgoing ~~traffic packets of the traffic flow~~ based on the assigned policy ~~for the assigned traffic~~.

3. The apparatus defined in Claim 2 wherein the intra-flow policy modulator performs the ~~delayed~~ hysteresis response when varying traffic classes in response to the different packet tag having a higher priority.

9. The apparatus defined in Claim 2 wherein the policy module applies a policy to the incoming ~~traffic packets~~ based on assigned traffic class and controls outgoing ~~traffic packets~~ based on the assigned policy for the incoming ~~traffic packets~~.

10. The apparatus defined in Claim 9 wherein the policy manager controls the outgoing ~~traffic packets~~ by providing less importance to ~~traffic packets~~ having a first type of tag and more importance to ~~traffic packets~~ having a second type of tag using the assigned policy for the incoming ~~traffic packets~~.

11. A method comprising:

mapping policies to traffic classes associated with flows of packets within respective connections in a network;

modulating assignment of traffic classes to individual packet flows within the connections in the network based on one or more changes in packet tags of packets within respective ones of the individual connections using a delayed hysteresis response to changes in received packet tags within the respective ones of the individual connections.

12. An apparatus comprising:

means for mapping policies to traffic classes associated with flows of packets within respective connections in a network;

means for modulating assignment of traffic classes to individual packet flows within the connections in the network based on one or more changes in packet tags of packets within respective ones of the individual connections using a delayed hysteresis response to changes in received packet tags within the respective ones of the individual connections.

13. A method comprising:

assigning a first traffic class to incoming traffic within a connection based on a first Independent Computing Architecture (ICA) ICA Virtual Channel Tag of a first packet in the incoming traffic; and

assigning a second traffic class to the incoming traffic within the connection based on a second ICA Virtual Channel Tag of a second packet within the connection in

the incoming traffic to reclassify the connection in response to changes in ICA Virtual Channel Tags;

applying a policy to the incoming traffic based on an assigned traffic class; and
controlling outgoing traffic based on the assigned policy for the incoming traffic.

29. An apparatus comprising:

a classification module operative to receive incoming traffic and to assign a first traffic class to the incoming traffic based on a Independent Computing Architecture (ICA) ICA Virtual Channel Tag in the incoming traffic, wherein the classification module varies the assigned traffic class applied to a connection in response to receipt of a different IC Virtual Channel Tag in the incoming traffic; and

a policy module operative to assign a policy to the incoming traffic based on the assigned traffic class and to control outgoing traffic based on the assigned policy for the incoming traffic.

41. An apparatus comprising:

means for assigning a first traffic class to incoming traffic within a connection based on a first Independent Computing Architecture (ICA) ICA Virtual Channel Tag of a first packet in the incoming traffic; and

means for changing the traffic class assigned to the incoming traffic based on a second ICA Virtual Channel Tag of a second packet within the connection in the incoming traffic, such that the connection is reclassified in response to changes in ICA Virtual Channel Tags;

_____ means for applying a policy to the incoming traffic based on an assigned traffic class; and

_____ means for controlling outgoing traffic based on the assigned policy for the incoming traffic.

42. A computer-readable storage medium for storing logic for execution, the logic when executed operable to cause a computing system to: executable instructions which, if executed by a computing system, causes the computing system to:

assign a first traffic class to incoming traffic within a connection based on a first Independent Computing Architecture (ICA) ICA Virtual Channel Tag of a first packet in the incoming traffic; and

change the traffic class assigned to incoming traffic based on a second ICA Virtual Channel Tag of a second packet within the connection in the incoming traffic, such that the connection is reclassified in response to changes in ICA Virtual Channel Tags;

_____ apply a policy to the incoming traffic based on an assigned traffic class; and
_____ control outgoing traffic based on the assigned policy for the incoming traffic.

48. A bandwidth manager comprising:

a TCP conditioner-based policy modulator operative to modulate policies applied to packets of a TCP connection based on a determination as to whether each of the packets will arrive substantially out of order, wherein the TCP conditioner-based policy modulator comprises

a classification module to receive incoming traffic, assign a traffic class to the incoming traffic based on a packet tag in the incoming traffic, and vary the

traffic class applied to the connection in response to receipt of a different packet tag in the incoming traffic; and

a policy module to assign a policy to the incoming traffic based on the assigned traffic class and to control outgoing traffic based on the assigned policy for the incoming traffic.

49. The bandwidth manager defined in Claim 48 wherein the TCP conditioner-based policy modulator performs a delayed hysteresis response when varying traffic classes in response to the different packet tag having a higher priority.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AJIT G. PATEL whose telephone number is 571-272-3140. The examiner can normally be reached on MONDAY-SATURDAY.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AP


Ajit Patel
Primary Examiner